

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert M. Moriarty et al.

Title: PROCESS FOR STEREOSELECTIVE
SYNTHESIS OF PROSTACYCLIN
DERIVATIVES

Prior Appl. No.: Div. of 09,754,107

Prior Filing Date: January 5, 2001

Examiner: Sikarl A. Witherspoon

Art Unit: 1621

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56

Mail Stop PATENT APPLICATION
Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Applicants submit herewith on Form PTO/SB/08 a listing of the documents cited by or submitted to the U.S. PTO in parent application Serial No. 09/754,0107, filed 01/05/2001. As provided in 37 CFR §1.98(d), copies of the documents are not being provided since they were previously submitted to the United States Patent & Trademark Office in the above-identified parent application.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the filing date of the application.

RELEVANCE OF EACH DOCUMENT

The relevance of the foreign-language document is explained in the parent application.

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date August 27, 2003

FOLEY & LARDNER
Customer Number: 22428



22428

PATENT TRADEMARK OFFICE

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Substitute for form 1449B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: August 27, 2003 <i>(use as many sheets as necessary)</i>				Application Number Prior Appl. 09/754,107 Filing Date Prior Filing Date - January 5, 2001 First Named Inventor Robert M. Moriarty Group Art Unit 1621 Examiner Name Sikarl A. Witherspoon	
Sheet	1	of	2	Attorney Docket Number	080618-0217

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
A1	6,441,245		MORIARTY ET AL.	08/27/2002		
A2	5,153,222		TADEPALLI ET AL.	10/1992		

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
A3	EP	0 087 237	A1		08/1983		
A4	WO	98/39337			09/1998		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS							
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.					T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	
A5		BELCH et al., "Randomized, Double-Blind, Placebo-Controlled Study Evaluating the efficacy and Safety of AS-013, a Prostaglandin E ₁ Prodrug, in Patients With Intermittent Claudication," Circulation, Vol. 95, No. 9, American Heart Association Inc., pp. 2298-2302; May 6, 1997.					
A6		NELSON, "Prostaglandin Nomenclature," Journal of Medicinal Chemistry, Vol. 17, No. 9, American Chemical Society, pp. 911-918, September 1974.					
A7		Takano et al., "Enantiodivergent Synthesis of Both Enantiomers of Sulcatol and Matsutake Alcohol from (R)-Epichlorohydrin," Chemistry Letters, The Chemical Society of Japan, pp. 2017-2020, 1987.					
A8		MATHRE et al., "A Practical Enantioselective Synthesis of α,α -Diaryl-2- Pyrrolidinemethanol, Preparation and Chemistry of the Corresponding Oxazaborolidines," J. Org. Chem., Vol. 56 No. 2, American Chemical Society, pp. 751-752, 1991.					
A9		PAGENKOPF, "Substrate and Reagent Control of Diastereoselectivity in Transition Metal-Mediated Process: Development of a Catalytic Photo Promoted Pauson-Khand Reaction," Caplus 1999, Abstract XP-002097925.					
A10		KHAND et al., "Organocobalt Complexes. Part II. Reaction of Acetylenehexacarbonyldicobalt Complexes, (R ¹ C ₂ R ²)Co ₂ (CO) ₆ , with Norbornene and its Derivatives," J. Chem. Soc., J.C.S. Perkin I., pp. 977-981, 1963.					
A11		PAUSON, "A Convenient and General Route to a Wide Range of Cyclopentenone Derivatives," Tetrahedron, Vol. 41, No. 24, Pergamon Press Ltd., pp. 5855-5860, 1985.					

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

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Sheet	2	of	2	First Named Inventor	Robert M. Moriarty
				Group Art Unit	1621
				Examiner Name	Sikarl A. Witherspoon
				Attorney Docket Number	080618-0217

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	A12	SCHORE, "Transition-Metal-Medicated Cycloaddition Reactions of Alkynes in Organic Synthesis," Chem. Rev., Vol. 88, American Chemical Society, pp. 1081-1119, 1988.	
	A13	SHAMBAYATI et al., "N-Oxide Promoted Pauson-Khand Cyclizations at Room Temperature," Tetrahedron Letters, Vol. 31 No. 37, Pergamon Press, pp. 5289-5292, 1990.	
	A14	JEONG et al., "Catalytic Version of the Intramolecular Pauson-Khand Reaction," J. Am. Chem. Soc., Vol. 116, American Chemical Society, pp. 3159-3160, 1994.	
	A15	CHUNG et al., "Promoters for the (Alkyne) hexacarbonyldicobalt-Based Cyclopentenone Synthesis," Organometallics, Vol. 12, American Chemical Society, pp. 220-223, 1993.	
	A16	HICKS et al., "A Practical Titanium-Catalyzed Synthesis of Bicyclic Cyclopentenones and Allylic Amines," J. Org. Chem., Vol. 61 No. 8, pp. 2713-2718, 1996.	
	A17	ZHANG et al. "A Nickel(O)-Catalyzed Process for the Transformation of Enynes to Bicyclic Cyclopentenones," J. Org. Chem., Vol. 61 No. 14, pp. 4498-4499, 1996.	
	A18	PAGENKOPF et al., "Photochemical Promotion of the Intramolecular Pauson-Khand Reaction. A New Experimental Protocol for Cobalt-Catalyzed [2+2+1] Cycloadditions," J. Am. Chem. Soc., Vol. 118 No. 9, American Chemical Society, pp. 2285-2286, 1996.	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶

Examiner Signature	Date Considered
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